

608.03.2 Detectable Warning Devices Type 2

Qualification Requests

On the laboratory test report that is sent in with the request, the test data must show that the material is in compliance with requirements for Detectable Warning Devices (DWD) Type 2.

Qualification Procedures

The requirements for test reports that are received for QPL prequalification are as follows.

- ◆ The producer will submit a set of detailed drawings and test reports for the DWD's.
- ◆ MDT will ensure that the product meets the testing requirements on the web page and the dimensions on the Detailed Drawings. The material will be rejected if MDT's requirements are not met.

Material Requirements

Detectable Warning Devices must meet the requirements listed in the Detailed Drawings and the requirements listed on the following pages. All Steel and iron products must meet the requirements listed in the Standard Specifications for Road and Bridge Construction subsection "106.09 Domestic Materials". All testing and reporting is to conform to the above requirements whether it is for the quality control test reports, random or auditing test, or for disqualification or requalification.

Requirements for Detectable Warning Devices:

GENERAL

Acceptance of Detectable Warning Devices shall be based on source and fabricator approval prior to being added to the Qualified Products List (QPL). Detectable Warning Devices shall meet the requirements of Americans with Disabilities Act (ADA) Public Rights of Way Guidelines (PROWAG). It will be up to the manufacturer of the product to demonstrate to the Montana Department of Transportation (MDT) that their product meets PROWAG Guidelines and MDT standard specifications and detailed drawings. The Detectable Warning Device shall also meet the following requirements:

1. Installation

- a. The installation must provide a product meeting grade and transition requirements of Detailed Drawing 608-40.

2. Proven testing and durability

- a. Provide documentation showing that the product has been tested and used successfully in other cold climates and snow regions of the United States.
- b. Provide information and documentation that the DWD has been plow tested with a sidewalk plow. The test plow must be a trip plow, weigh a minimum of 35 lbs/linear foot, and have a rigid metal bottom edge. Detectable Warning Devices that do not retain 90% of the domes after fifty (50) controlled test plowings will not be accepted.

3. Coating where applicable

- a. Provide test results showing chemical stain resistance when tested by ASTM D 543 to withstand without discoloration or staining – saturated calcium or magnesium chloride, enamel spray paint, black liquid ink, mustard, ketchup, coffee, diesel fuel, asphalt, tobacco juice, hydraulic oil, motor oil, and antifreeze.
- b. Provide test results for ASTM D 4495 or ASTM D 5420. For ASTM D 5420 the requirement is to have a mean failure energy of not less than 5.75 ft-lbs. A failure is noted when a crack is visible in the coating or a 3mm depression on domes that are coated. The requirement for ASTM D 4495 the requirement is to have a mean failure energy of not less than 10.25 ft-lbs. A failure is noted when a crack is visible in the coating or a 3mm depression on domes that are coated.

4. Slip Resistance

- a. Provide test results showing Slip Resistance has been tested by ASTM C 1028, and the combined Wet and Dry Static Co-Efficient of Friction is not less than 0.80 on top of domes and field area for both the coated and non-coated specimen.

5. Salt and Spray Performance

- a. Provide test results for an abraded specimen that has been tested by ASTM B 117. The product passes if it does not show any deterioration or other defects after 100 hours of exposure.

6. Buy America

- a. All steel and iron products must comply with section 106.09 of the Standard Specifications for Road and Bridge Construction.

7. Stainless Steel

- a. Stainless steel shall conform to ASTM A 240 standards.

8. Cast Iron

- a. Gray iron castings shall be manufactured from iron conforming to ASTM A 48 Class 30B, as noted in AASHTO M 306. Ductile iron castings shall be manufactured from iron conforming to ASTM A 536 Grade 80-55-06, unless otherwise specified.